

Name: \_\_\_\_\_

**Earth Science 11**  
**Radiometric Dating Practice**

**SHOW YOUR WORK!**

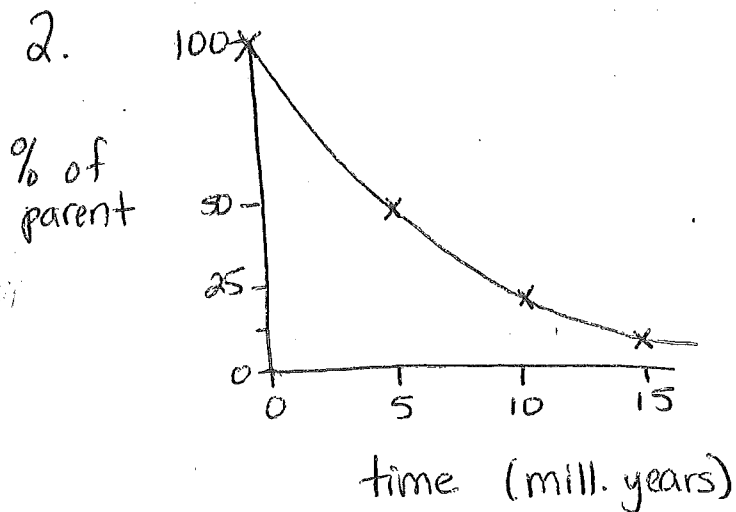
1. What is the definition of "half life?"
  
2. How many half lives have passed if a rock sample has:
  - a. 50% daughters (stable material) and 50% parents (radioactive material)?
  
  - b. 150 daughters and 50 parents?
  
  - c.  $\frac{7}{8}$  daughters and  $\frac{1}{8}$  parent?
  
3. What is the formula for calculating the age of a rock?
  
4. For each of the samples in #2, calculate the age if the half life of the radioactive material is 5 million years.
  - a. Age =
  
  - b. Age =
  
  - c. Age =
  
5. Which radioactive element is used to find the age of something that used to be living?
  
6. Explain in detail how to find the age of a rock using radiometric dating.

DID YOU SHOW YOUR WORK?

## More radiometric dating practice:

1. A piece of wood found <sup>in</sup> an ancient tomb has a ratio of 1 parent to 15 daughters.

- how many half lives have passed?
- how old is the wood? (Hint: what type of dating must be done on wood?)



a) how long is a half-life?

b) how long would it take until there was 87.5% of the stable daughter?

3. True or false (if false, explain why):

- uranium 238 dating can be used to find the age of a dinosaur bone.
- Carbon 14 dating can find the age of a dinosaur bone.
- Carbon 14 can only be used for an object that was previously alive.